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ABSTRACT

This program guide is designed to provide the educational community with the recommended plan for industrial arts (IA) in Pennsylvania. It outlines the program that is consistent with the mandates and recommendations of the 1984 Chapter 5-Curriculum Regulations of the State Board of Education and has been developed using current national IA curriculum theories, the regulations of the State Board of Education, and the 12 Goals of Quality Education. Contents include the philosophy of IA education, definition of IA, relationship of IA and technology, and an overview of an IA program of study (level, goals, and scope). Detailed programs of study follow for elementary school (grades K-6), middle or junior high school (grades 7-9), and senior high school (grades 10-12). Each provides a description, regulation, scope, planned courses and sequences, and instructional characteristics, such as time, population, staffing, facilities, clustering, and safety. The guide also contains a diagram of the 12 goals of quality education, a summary of curriculum recommendations for IA under Chapter 5--secondary grades, a chart showing IA articulation with vocational education and postsecondary education, information on the American IA Student Association and on safety, and a listing of available resources. (YLB)

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Pennsylvania Industrial Arts Technology Education

Program Guide K-12

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Industrial Arts Association of Pennsylvania

Pennsylvania Department of Education

1984

COMMONWEALTH OF PENNSYLVANIA
Dick Thornburgh, Governor

DEPARTMENT OF EDUCATION
Margaret A. Smith, Secretary
D. Kay Wright, Commissioner of Basic Education
Jerry C. Olson, Director, Bureau of Vocational and Adult Education

PENNSYLVANIA STATE INDUSTRIAL ARTS ADVISORY COUNCIL
John Stoudt, Chair of Council
Thomas Winters, Executive Secretary

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FOREWORD

The Pennsylvania Industrial Arts Program Guide has been developed to provide the education community in Pennsylvania with the recommended plan for industrial arts in the Commonwealth. The guide outlines the program that is consistent with the mandates and recommendations of the 1984 Chapter 5-Curriculum Regulations of the State Board of Education. It has been developed using current national industrial arts curriculum theories, the regulations of the State Board of Education, and the 12 Goals of Quality Education. The Pennsylvania Industrial Arts Program Guide should enable teachers and others to better understand the broad, practical, and conceptual base of industrial arts.

It has been prepared through the cooperative efforts of the Pennsylvania Department of Education/Bureau of Vocational and Adult Education, the Industrial Arts Program Area Specialist and the Industrial Arts Association of Pennsylvania Curriculum Committee.

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Original Art Work by Mary Good

PHILOSOPHY OF INDUSTRIAL ARTS EDUCATION

America has traditionally been designated as an industrial/technological society. Industrial arts education deals with the content base of this aspect of our society through planned experiences. It is an area of study that uses a variety of learning styles to complete the total education of the child through the application of basic academic skills and the knowledge of industry/technology.

Industrial arts courses provide for all students the opportunity to learn technical skills, to produce and read technical drawings, to learn the operation of hand tools, and machines and to be familiar with the uses and properties of materials. It also provides opportunities to develop technological literacy, to explore careers, to acquire consumer skills and to understand economic and environmental concepts.

Personal and social growth is fostered in an industrial arts program through interaction with other students in the laboratory. Exploratory vocational and avocational skills, and leadership skills are developed through activities associated with an affiliated American Industrial Arts Student Association Chapter.

Since the beginning of civilization, men and women have strived to make better tools and become more efficient in the way they use them, resulting in better products, better services and a better way of life. This human tendency to improve - including improving the preparation of students to meet the needs of a technological society - will continue to be a critical factor in the organization of industrial arts programs.

DEFINITION OF INDUSTRIAL ARTS

Industrial arts is an integral part of the total education of the child and is devoted to the study of industry and technology, its processes, products and occupations. It concentrates on technology and occupations in communications, construction, manufacturing and transportation. Learning occurs through classroom activities, laboratory experiences, research and educational assessment. Industrial arts provides a vital link between abstract knowledge and the practical applications necessary to understand, live and work in a technological society.

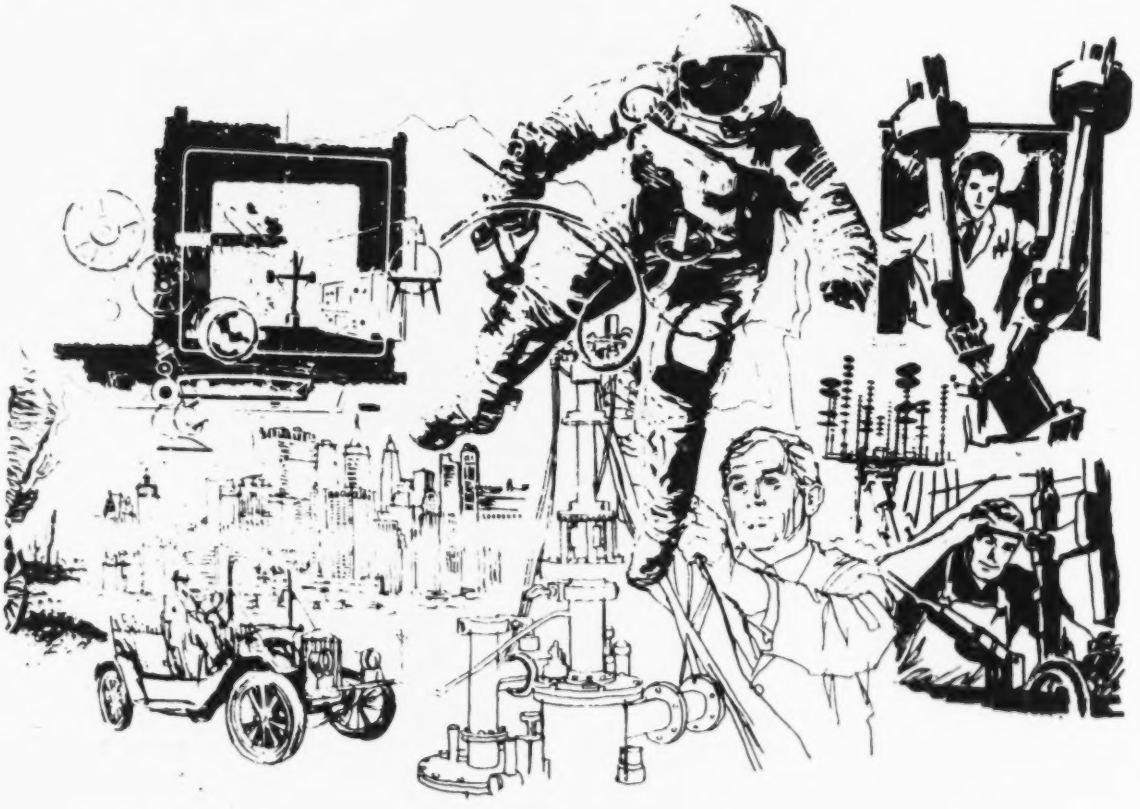
The term "INDUSTRIAL ARTS EDUCATION" means those educational programs...

... which pertain to the body of related subject matter, or related courses, organized for the development of understanding about all aspects of industry and technology, including learning experiences and activities such as experiments, designing, constructing, evaluating and using tools, machines, materials and processes; and

... which assist individuals in making informed and meaningful occupational choices which prepare them for entry into advanced trade, industrial, professional and technical education programs, while developing leadership and life adjustment skills; and

... which assist individuals in acquiring information about and developing an interest in consumer knowledge and leisure time activities.

RELATIONSHIP OF INDUSTRIAL ARTS AND TECHNOLOGY



The primary function of industrial arts is to prepare youth to function effectively in a world of advancing technology. Technology describes how man has developed and used materials and tools. Therefore, our students and teachers in industrial arts are not ignorant of technology.

Because our culture is as "technological," it should be the function of schools to give every student an insight and understanding of technology. In Pennsylvania, technology is integrated into industrial arts through lab-oriented programs in industrial materials, power technology and visual communications, with student activities which result in the production of materials and services.

OVERVIEW OF INDUSTRIAL ARTS PROGRAM OF STUDY

PROGRAM COURSES/SEQUENCE

	LEVEL	GOALS	SCOPE
PRIMARY	Elementary School	Learning Reinforcement: - Technology Education - Safety - Career Awareness	Industrial arts activities integrated in the general elementary school planned courses and program for understandings in: - Industrial Materials - Power Technology - Visual Communications
SECONDARY GRADES	Middle or Junior High School	Orientation/ Exploration - Industry - Technology Education - Occupations - Safety	Planned experiences in: (7th) - Industrial Materials (8th) - Power Technology (9th) - Visual Communications Occupational information in: - Industrial Materials - Power Technology - Visual Communications
	High School	Industrial and Technical Adaptability: - Technology Education - Technical Literacy - Adaptability for a changing workplace - Preparation for advanced education and training - Leisure time pursuits - Orientation/ Exploration - Career planning - Preparation for work - Safety	Applied activities in unit or cluster courses representing: Industrial Materials - Ceramics (Industrial) - Construction - Crafts - Manufacturing - Metalworking - Plastics/Synthetics - Woodworking Visual Communications - Drafting/Design - Graphic Arts - Photography Power Technology - Alternate Energy Systems - Electricity - Electronics - Hydraulics/Pneumatics - Mechanical Systems - Power Mechanics - Transportation - Robotics

*Each high school program should provide a minimum of one course offering in each of the three clusters.

PROGRAM OF STUDY
ELEMENTARY SCHOOL, GRADES K-6

Description

Elementary school industrial arts (ESIA) activities are designed to further the attainment of the Goals of Quality Education. These activities provide opportunities for students to develop concepts and skills through concrete experiences such as the use of tools and materials. An ESIA program teaches students about technology, develops psychomotor skills and refines attitudes about the technical aspects of society. More specifically, students:

- -Work with tools, materials and technical processes;
- -Integrate and enrich concepts in the language arts, sciences, mathematics and other areas in the elementary school curriculum;
- -Develop self-esteem through accomplishments;
- -Act as a member of a group while solving problems of a technological nature;
- -Appreciate the development of technical skills in others;
- -Appreciate the dignity of all useful work; and
- -Role play a variety of industrial-related careers in settings that are free of occupational stereotypes.

Regulation: Chapter 5

Chapter 5 does not mention industrial arts at the elementary school level. The regulations however do not exclude it from consideration as a part of the total elementary curriculum.

Scope

The scope of elementary school industrial arts includes effective learning reinforcements, contributions to the student's personal development and technological awareness. Industrial arts activities are to be integrated into the classroom in conjunction with existing subjects.

Planned Courses and Sequence

There are no planned courses in elementary industrial arts. Elementary teachers with the aid of industrial arts professionals are responsible for developing a program sequence of activities and concepts related to industry, technology and work that are integrated with the regular program of study for reinforcement and understanding.

Instructional Characteristics

To accomplish the goals of elementary school industrial arts, all programs should contain the following elements:

Staffing:

While all classroom teachers and industrial arts consultants in Pennsylvania with current certification are properly licensed to provide instruction in ESIA activities, it is strongly suggested that they enroll in workshops on this subject prior to using this innovative technique. In addition, the use of a team approach, whether team members assist on a part or full-time basis, will provide a more effective ESIA program.

Integration with the Curriculum:

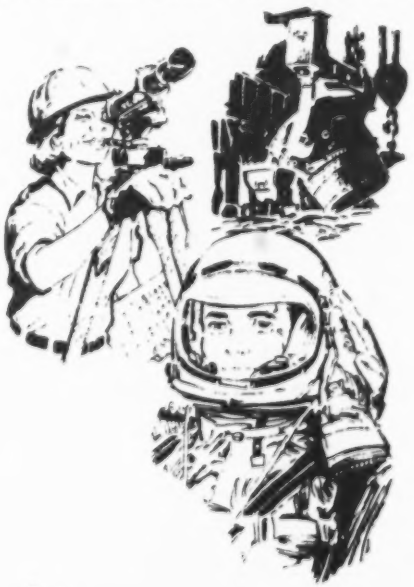
Activities are to be integrated with the total elementary school curriculum and should provide students with experiences that reinforce the Goals of Quality Education.

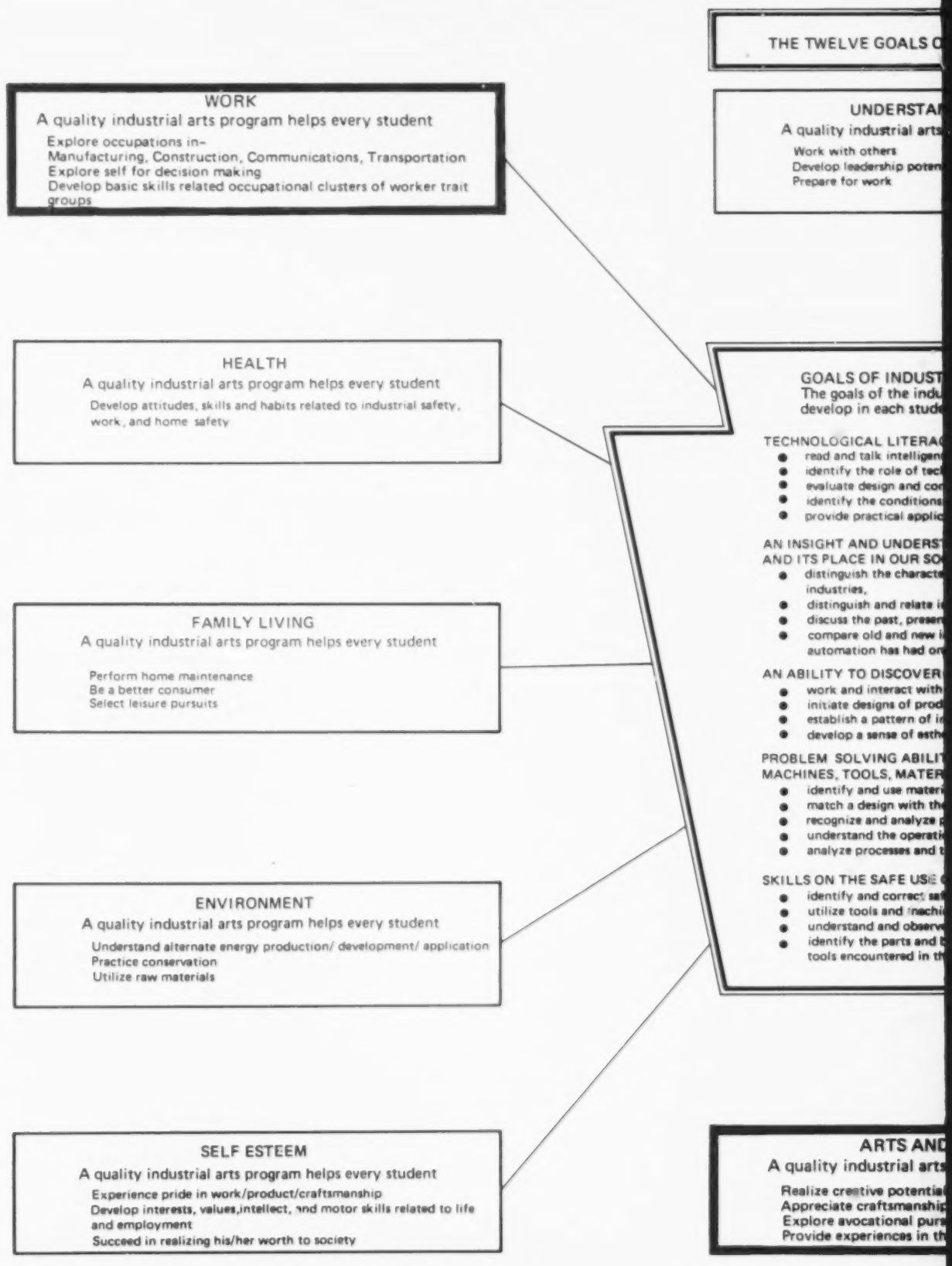
Facilities, Equipment and Supplies:

ESIA activities are usually performed in a self-contained classroom, although a separate laboratory facility could be used to support this effort. Equipment and tools must be selected or constructed to fit the different developmental levels of the students. While all of the necessary supplies can be purchased from various commercial distributors, these expenses can often be supplemented with donations from local businesses and manufacturers.

Safety:

Effective safety education begins as early in a child's educational sequence as possible. Good safety attitudes and habits are built in the formative years as the child uses tools, materials and supplies. The importance of sound safety instruction and learned practices at this level is invaluable.




THE TWELVE GOALS O
WORK
A quality industrial arts program helps every student
Explore occupations in-
Manufacturing, Construction, Communications, Transportation
Explore self for decision making
Develop basic skills related occupational clusters of worker trait groups
UNDERSTAN
A quality industrial arts
Work with others
Develop leadership poten
Prepare for work
HEALTH
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Develop attitudes, skills and habits related to industrial safety, work, and home safety
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utilize tools and machi
understand and observe
identify the parts and
tools encountered in th
FAMILY LIVING
A quality industrial arts program helps every student
Perform home maintenance
Be a better consumer
Select leisure pursuits
ENVIRONMENT
A quality industrial arts program helps every student
Understand alternate energy production/ development/ application
Practice conservation
Utilize raw materials
SELF ESTEEM
A quality industrial arts program helps every student
Experience pride in work/product/craftsmanship
Develop interests, values,intellect, and motor skills related to life and employment
Succeed in realizing his/her worth to society
ARTS AND
A quality industrial arts
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QUALITY EDUCATION

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UMANITIES
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ractical arts and crafts

SCIENCE AND TECHNOLOGY

A quality industrial arts program helps every student

- Understand the relationship between science/technology/product
- Experience technology past and present
- Assess technology present and future

MATHEMATICS

A quality industrial arts program helps every student

- Apply basics of mathematics in-
- Measurement
- Metrics
- Computer applications in industry
- Calculations in electricity/electronics

CITIZENSHIP

A quality industrial arts program helps every student

- Understand industrial management and organization
- Understand parliamentary procedure
- Work within a group or organization

COMMUNICATION SKILLS

A quality industrial arts program helps every student

- Become technically literate
- Understand the language of industry
- Speak, read and write in the content area

ANALYTICAL THINKING

A quality industrial arts program helps every student

- Solve problems by practical application
- Experiment/discover
- Establish procedures for task execution

MIDDLE OR JUNIOR HIGH SCHOOL, GRADES 7-9

Description

The industrial arts program at the middle or junior high school level is broad based and exploratory in nature and provides hands-on experiences with tools, materials, processes, and products related to our industrial-technological society. Students who go through industrial arts activities at the middle/junior high school level grow as they:

-learn basic safety practices of everyday living.
-develop awareness of occupational alternatives in the world of work.
-relate class activities to potential avocational and vocational pursuits.
-discover and develop individual talents, interests and aptitudes related to industry and technology and choices of education, training and work.
-apply problem solving techniques to a variety of industrial and technological situations.
-apply and reinforce math and science skills in practical situations and in life skills development.

Regulation: Chapter 5

5.4(c) Secondary Grades

(2) Required planned courses for all students to be taught during the secondary grades.

(ii) The following planned courses shall be taught.

(D) Industrial Arts — 1 planned course

NOTE: The PDE recommendation for this course is 120 hours of instruction for every child.

(3) Offered courses. The following planned courses shall be offered to all students enrolled in secondary grades:

(vii) Industrial Arts

Scope

The scope of middle or junior high industrial arts is specific. Industrial arts is exploratory and shall provide an understanding of industry and technology and an awareness of occupations for the purpose of technological literacy and choices of education, training and work.

Planned Courses and Sequence

Pennsylvania's three curriculum clusters are industrial materials, power technology and visual communications. Exploratory experiences should provide occupational awareness and technological systems understanding in manufacturing, construction, communications, and transportation. Learning experiences should grow out of the elementary experiences but must be introductory to all students as a first hand learning experience with tools and materials.

Instructional Characteristics

Time:

Students in the middle/junior high school program must complete a planned course of 120 hours of classroom/laboratory activity which can be distributed over three years or over a full year. Each of the three cluster areas of industrial materials, power technology, and visual communications, must be included in the planned course.

Population:

All students must have the opportunity to participate in industrial arts laboratory activities offered at the middle/junior high school level.

Staffing:

Programs must be staffed by fully certificated industrial arts teachers. Depending on laboratory facilities, class enrollment, and departmental offerings, staffing might involve one teacher for all three cluster areas, or three teachers; one for each cluster area.

Facilities:

The laboratory or facilities must provide adequate space for a range of activities in each cluster. General laboratories of 1,800 to 2,400 square feet are recommended. A laboratory for teaching all three clusters in a comprehensive facility needs to be 2,400 square feet while 1,800 square feet is adequate for a cluster laboratory. Equipment selection should be based upon exploratory experiences in the widest possible range of the technological areas.

Clustering:

Content is clustered in broad areas of industrial materials, visual communications, and power technology in the junior high/middle school grades, and in continued broad clusters at the senior high level or in unit clusters in areas such as drafting, electricity/electronics, woodworking. The purpose of clustering is to prepare students to choose further specialized education.

Safety:

Continued emphasis must be placed upon safety at this level with appropriate instruction, evaluation and follow-up.

SENIOR HIGH SCHOOL, GRADES 10-12

Description

The senior high school industrial arts program provides learning experiences with tools, machines, materials, processes, and products related to industry, technology, and occupations. Students become technically literate and better able to adapt to a changing society and work place. Students grow in consumerism, occupational awareness and preparation, home and family skills, and leisure pursuits as they:

-plan, design, construct, experiment, and evaluate.
-use tools, operate machines, utilize materials, learn processes, trace resources, and associate products.
-function in individual and group roles.
-apply math and science skills in practical applications for reinforcement and understanding of the science/technology/product relationship.
-explore self in choosing education, training, and employment.
-acquire knowledge, attitudes, and habits of safety precautions as a life and job benefit.

Regulation: Chapter 5

5.4(c) Secondary Grades

(2) Required planned courses for all students to be taught during the secondary grades.

(ii) The following planned courses shall be taught.

(D) Industrial Arts — 1 planned course

NOTE: The PDE recommendation for this course is 120 hours of instruction for every child.

(3) Offered courses. The following planned courses shall be offered to all students enrolled in secondary grades:

(vii) Industrial Arts

Scope

Senior high industrial arts is more individualized and specific in scope. At this level the scope narrows to meet individual student needs. It encompasses enrichment, occupational awareness, and technical literacy for all students and may provide broad employability skills for some students.

Planned Courses and Sequence

Elective course offerings can be organized as broad clusters or specific unit courses. Courses should be sequenced with the broad cluster experiences the child has had in the junior high/middle school. Senior high courses should provide breadth for all students rather than prerequisite levels that provide in-depth preparation for a few. If unit courses are the program organization, units must be representative of all three cluster areas of industrial materials, visual communications, and power technology. Independent study programs should be available to meet individual needs, from preparation for work to simple enrichment.

Instructional Characteristics

Equipment:

Facilities should be appropriately equipped to meet the instructional needs of the various courses in unit or cluster areas.

Time:

Courses should carry course credit on an equal level with all the programs in the school. Scheduling can be designed quarterly, by semesters or yearly.

Populations:

All students should have the opportunity to select industrial arts courses at the senior high level. Programs should not exclude females, handicapped students, males and minorities. Teachers should also be involved in the development of IEP's, when appropriate, for handicapped students, and the courses should be adapted to meet the needs of students with handicaps so long as the child's safety can be insured. Industrial arts should also provide flexible opportunities for gifted students such as advanced independent study.

Staffing:

Programs must be staffed by fully certificated industrial arts teachers.

Facilities:

Facilities should provide adequate space to carry out the necessary activities. Space can vary from classroom size for drafting to 1,800 square foot minimum size for material courses such as woodworking or metal working to 2,400 square foot areas for comprehensive cluster laboratories. The best rule for assigning students to classes is 100 square foot per student for laboratory courses where machine and tool processes are included.

Clustering:

If course content is adequately clustered and if adequate instructional time has been provided (120 hours) at the junior high/middle school level, the courses in senior high can be specific units of instruction. Cluster sequencing should evolve from exploratory courses (junior high/middle school) to more elective unit courses (senior high) to specific job/professional training (secondary vocational education and postsecondary education) for entry level employment.

Safety:

As the students are more actively involved with hazardous processes, increased emphasis must be placed upon safety instruction, evaluation and recordkeeping.

SUMMARY

CURRICULUM RECOMMENDATIONS FOR INDUSTRIAL ARTS UNDER CHAPTER 5

SECONDARY GRADES

REQUIRED PLANNED COURSE FOR ALL STUDENTS, GRADES 7 - 12

1. SHOULD BE A MINIMUM OF 120 HOURS OF INSTRUCTION IN INDUSTRIAL ARTS.
2. SHOULD ENCOMPASS CLUSTERED CONTENT IN:
   A. INDUSTRIAL MATERIALS
   B. VISUAL COMMUNICATIONS
   C. POWER TECHNOLOGY
3. SHOULD BE TAUGHT IN THE JUNIOR HIGH OR MIDDLE SCHOOL GRADES

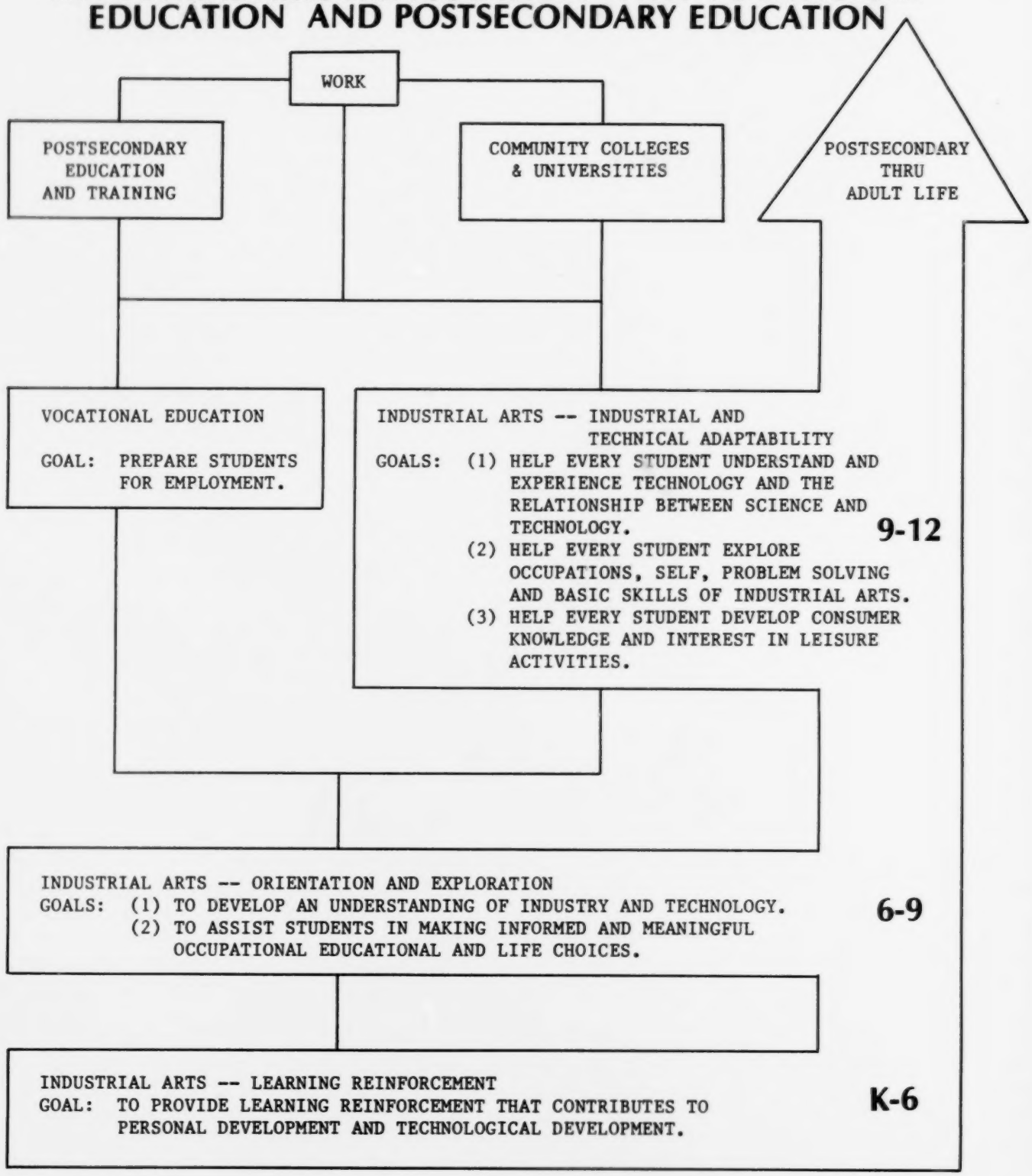
OFFERED COURSES-- ALL STUDENTS ENROLLED IN GRADES 7 - 12

1. IN ADDITION TO THE REQUIRED PLANNED COURSES, INDUSTRIAL ARTS COURSES SHOULD BE OFFERED TO ALL STUDENTS AS AN ELECTIVE EACH YEAR IN GRADES 7 - 12.
2. SHOULD BE AT LEAST ONE INDUSTRIAL ARTS COURSE OFFERED REPRESENTING EACH OF THREE CLUSTERS:
   A. INDUSTRIAL MATERIALS
   B. VISUAL COMMUNICATIONS
   C. POWER TECHNOLOGY

GRADUATION REQUIREMENTS

1. INDUSTRIAL ARTS SHOULD BE APPROVED FOR CREDIT UNDER ARTS AND HUMANITIES - 2 UNITS OF CREDIT
2. INDUSTRIAL ARTS SHOULD BE APPROVED FOR CREDIT UNDER ADDITIONAL COURSES - 5 UNITS OF CREDIT

INDUSTRIAL ARTS ARTICULATION WITH VOCATIONAL EDUCATION AND POSTSECONDARY EDUCATION


WORK
POSTSECONDARY EDUCATION AND TRAINING
COMMUNITY COLLEGES & UNIVERSITIES
POSTSECONDARY THRU ADULT LIFE
VOCATIONAL EDUCATION
GOAL: PREPARE STUDENTS FOR EMPLOYMENT.
INDUSTRIAL ARTS -- INDUSTRIAL AND TECHNICAL ADAPTABILITY
GOALS: (1) HELP EVERY STUDENT UNDERSTAND AND EXPERIENCE TECHNOLOGY AND THE RELATIONSHIP BETWEEN SCIENCE AND TECHNOLOGY.
(2) HELP EVERY STUDENT EXPLORE OCCUPATIONS, SELF, PROBLEM SOLVING AND BASIC SKILLS OF INDUSTRIAL ARTS.
(3) HELP EVERY STUDENT DEVELOP CONSUMER KNOWLEDGE AND INTEREST IN LEISURE ACTIVITIES.
9-12
INDUSTRIAL ARTS -- ORIENTATION AND EXPLORATION
GOALS: (1) TO DEVELOP AN UNDERSTANDING OF INDUSTRY AND TECHNOLOGY.
(2) TO ASSIST STUDENTS IN MAKING INFORMED AND MEANINGFUL OCCUPATIONAL EDUCATIONAL AND LIFE CHOICES.
6-9
INDUSTRIAL ARTS -- LEARNING REINFORCEMENT
GOAL: TO PROVIDE LEARNING REINFORCEMENT THAT CONTRIBUTES TO PERSONAL DEVELOPMENT AND TECHNOLOGICAL DEVELOPMENT.
K-6

AMERICAN INDUSTRIAL ARTS STUDENT ASSOCIATION

"Learning to Live in a Technical World"

Each industrial arts program must give serious consideration to starting an American Industrial Arts Student Association--known as AIASA (pronounced I-A-Sa). It is a national organization for elementary, junior high and senior high school students who are presently enrolled in, or have completed, industrial arts courses.

AIASA is designed to develop the leadership and personal abilities of students as they relate to the industrial-technical world.

AIASA is recognized by the United States Department of Education (USDE), the American Vocational Association (AVA) and the American Industrial Arts Association (AIAA) as the only national student organization devoted exclusively to the needs of industrial arts students.

AIASA enables the student to:

- o develop leadership
- o build self-esteem
- o strengthen communication skills
- o generate team work
- o understand others
- o improve social skills
- o use the democratic process
- o develop patriotism and citizenship
- o increase his/her high standards
- o expand exploratory experiences
- o develop work skills
- o increase technological understanding
- o have opportunities for training
- o understand dignity of work
- o appreciate the free enterprise system
- o appreciate safe practices
- o develop positive competitive spirit
- o reach occupational objectives
- o expand career choices

AIASA activities are for students at all grade levels. The student potential is realized through co-curricular activities (in class) for all students enrolled in industrial arts. Class management and student planning are two examples of leadership development in the classroom. The concept is one of integration (co-curricular) in the program, not of attachment to it (extra-curricular).

Students are the real product of industrial arts; they are the public relations for industrial arts. By developing their leadership potential in the classroom, community resources will naturally become a part of industrial arts, students will grow in decision making capabilities, and students will gain recognition for performance, craftsmanship and safety. It is suggested that reference be made to the AIASA Chapter Handbook for further information.

SAFETY

"Safety Above All Else"

Each industrial arts program must integrate safety education in its curriculum. As in industry and commerce, the accidental injury is a specter that haunts us in public education. Although it is impossible to eliminate accidents entirely from industrial arts activities, the frequency and severity of injury to students can be lessened by providing instruction on safe practices for use in industrial arts classrooms and laboratories.

Effective safety education facilitates attitudes and consciousness that result in safe work practices and that prevent accidents. In addition, effective safety education is one step in protecting the industrial arts instructor, supervisor, and school administrator from litigation.

The task of overcoming the "it can't happen to me" attitude is monumental and requires that safety awareness be an integral part of the everyday instructional program. The school board, the administration and the instructor have the legal responsibility to provide a safe place for students to work while they are participating in industrial arts activities. However, the teacher has major responsibility for laboratory safety instruction and accident prevention. Safety is not a "one man show". The school board and superintendent, the district safety coordinator, the administrator, department head, and the teacher all need to do their part.

"Safety above all else" should be the motto in all industrial arts classrooms. The development of good safety habits will protect teachers and students while in the industrial arts laboratory, but just as important, the regular practices of safety become attitudes that last a lifetime.

Safety education is an important part of industrial arts education in Pennsylvania. As professionals, we must become more knowledgeable in teaching our students to protect themselves against dangerous or potentially dangerous conditions. It is suggested that reference be made to the Pennsylvania Industrial Arts Safety Guide for further information.

RESOURCES AVAILABLE

INDUSTRIAL ARTS EXEMPLARY PROGRAM CRITERIA:

A series of checklists developed to identify exemplary programs and/or enable the evaluation of existing programs against the criteria presented.

AIASA CHAPTER HANDBOOK:

A manual to be utilized by student organization advisors or potential advisors to improve and/or develop student club chapters.

ELEMENTARY SCHOOL INDUSTRIAL ARTS GUIDE/AN EDUCATOR'S HANDBOOK:

A handbook developed for use by elementary teachers/industrial arts consultants to incorporate elementary school industrial arts activities into the primary school program.

ELEMENTARY SCHOOL INDUSTRIAL ARTS GUIDE/ESIA LESSON PLANS:

A series of planned elementary school industrial arts activities. A companion to the Educator's Handbook.

PENNSYLVANIA INDUSTRIAL ARTS SAFETY GUIDE:

A comprehensive safety manual designed for implementation of safe practices into existing programs and to encourage improvement of safety instruction.

These resources are available from:

Program Specialist, Industrial Arts
Bureau of Vocational and Adult Education
333 Market Street
Harrisburg, PA 17126-0333
(1-717-783-6960)

Other Resources

The IAAP Journal (Subscription)
Dr. Nevin Andre
555 Old National Pike
Brownsville, PA 15417

The Technology Teacher
American Industrial Arts Association
1914 Association Drive
Reston, VA 22091

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Additional Copies of

Pennsylvania Industrial Arts/Technology Education
Program Guide
K-12

Can be obtained from:

Industrial Arts Program Specialist
Operations Division
Bureau of Vocational and Adult Education
Pennsylvania Department of Education
333 Market Street
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BEST COPY AVAILABLE